

Application No. 10/674,971
Amendment dated January 30, 2008
Reply to Office Action of October 31, 2007

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REMARKS

Applicant amended independent claims 29 and 39 to further define Applicant's claimed invention. Support for the amendment to independent claims 29 and 39 appears in the specification at least on page 9, lines 1-3 and page 15, lines 9-10, and FIGS. 1 and 6C. No new matter has been added.

In the Office Action, the Examiner rejected claims 29-61 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner asserted that the "original disclosure neither describes nor fairly suggests to one of ordinary skill the newly added language pertaining to the *leading* end of the implant being 'seated on the peripheral rim of the densely compacted bone along the anatomical curvature of the adjacent vertebral bodies.'" (Office Action, page 2, lines 10-13) (emphasis in original).

Applicant amended each of independent claims 29 and 39 to recite a method of inserting an artificial Implant into a disc space between two adjacent vertebral bodies including "positioning the leading end and the trailing end of the implant so that at least a portion of the implant proximate the leading end and at least a portion of the implant proximate the trailing end of the implant between the medial side and the mid-longitudinal axis of the implant overlies the peripheral rim of the densely compacted bone along the anatomical curvature of the adjacent vertebral bodies and do not substantially protrude from the spine." Applicant submits that support for this recitation of independent claims 29 and 39 can be found in Applicant's original specification at least on page 9, lines 1-3, page 15, lines 9-10, and in FIGS. 1 and 6C.

Applicant's specification teaches that "the implant ... is able to seat upon the dense compacted bone in the perimeter of the vertebral bodies for supporting the load through the implant when installed in the intervertebral space." (Page 9, lines 1-3). The specification teaches that implants (100) of FIG. 6C "have both a maximum safe width and length," and "sit on the peripheral vertebral body rim, including the anterior cortex and/or the apophyseal rim." (Page 15, lines 9-10).

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Applicant's FIG. 1 is "a cross-sectional top plan view of a vertebral body V in the lumbar spine is shown to illustrate the dense bone of the apophyseal rim AR present at the perimeter of the vertebral body V about the endplate region and an inner mass of cancellous bone CB." (Specification, page 2, lines 16-19). Applicant's FIG. 6C is "a top plan view of the endplate region of the vertebral body shown in FIG. 6A and two threaded spinal fusion implants of the present invention depicting the optimal proportions and shape for such interbody fusion implants." (Specification, page 11, lines 12-14). Applicant's FIG. 1 illustrates a top plan view of a human vertebral body (V) and shows the anatomically correct location of the apophyseal rim (AR). Each of the vertebral bodies (V) in the top plan view drawing figures originally submitted by Applicant (e.g., FIGS. 1-5, 6A-6C, 9-11, 12A, 12B, 13B, 14B) are the same shape and size. Thus, the location of the apophyseal rim in the vertebral bodies shown in FIGS. 1 and 6C is the same.

Attached hereto for the Examiner's reference as Exhibit 1 is Applicant's FIG. 1 with the implant (100) of FIG. 6C placed on the vertebral body (V) in the same position as in FIG. 6C. Exhibit 1 illustrates the dimensions of Applicant's implant (100) in relation to the anatomical structure of a human vertebral body (V). The size and shape of vertebral body (V) in Exhibit 1 are the same as the size and shape of vertebral bodies (V) in FIGS. 1 and 6C as originally submitted. The size and shape of implant (100) in Exhibit 1 are the same as the size and shape of implant (100) in FIG. 6C as originally submitted. The position of implant (100) on vertebral body (V) in Exhibit 1 is the same as the position of implant (100) on vertebral body (V) in FIG. 6C as originally submitted.

Exhibit 1 shows that at least a portion of the implant (100) proximate the leading end (102) of the implant between the medial side and the mid-longitudinal axis of the implant overlies the peripheral rim (AR) of the densely compacted bone along the anatomical curvature of the vertebral body and does not substantially protrude from the spine. Similarly, at least a portion of the implant (100) proximate the trailing end (104) of the implant between the medial side and the mid-longitudinal axis of the implant overlies the peripheral rim (AR) of the densely compacted bone along the anatomical curvature of vertebral body (V) and does not substantially protrude from the spine.

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Accordingly, it is respectfully submitted that in accordance with 35 U.S.C. § 112, first paragraph, Applicant's original specification contains a written description of the invention claimed in each of independent claims 29 and 39 in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same.

Applicant submits that the Examiner's rejection of independent claims 29 and 39 under 35 U.S.C. § 112, first paragraph, has been overcome. Applicant submits that independent claims 29 and 39 are patentable and that dependent claims 30-38 and 40-61 dependent from one of independent claims 29 and 39, or claims dependent therefrom, are patentable at least due to their dependency from an allowable independent claim.

In view of the foregoing remarks, it is respectfully submitted that the claims, as amended, are patentable. Therefore, it is requested that the Examiner reconsider the outstanding rejections in view of the preceding comments. Issuance of a timely Notice of Allowance of the claims is earnestly solicited.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this reply, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 50-3726.

Respectfully submitted,

MARTIN & FERRARO, LLP

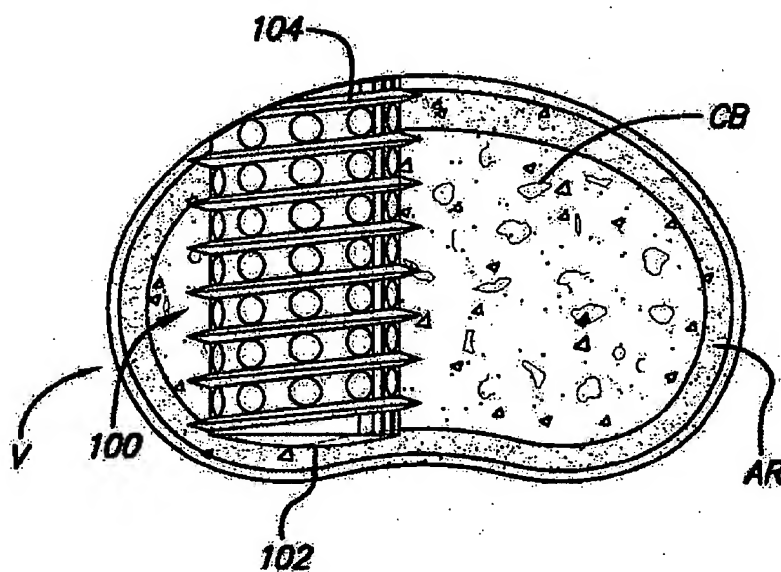
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EXHIBIT 1

NOT A REPLACEMENT DRAWING



VERTEBRAL BODY OF FIG. 1 WITH IMPLANT OF FIG. 6C

NOT A REPLACEMENT DRAWING